

LEARNER-CENTERED TEACHER BELIEFS AND STUDENT-PERCEIVED  
TEACHING EFFECTIVENESS

Jeffrey M. King, B.M., M.M.

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APPROVED:

D. Barry Lumsden, Major Professor and Chair  
Ron W. Newsom, Minor Professor  
Henry L. Harris, Committee Member  
Ron W. Newsom, Program Coordinator for Higher Education  
Michael C. Altekruze, Chair of the Department of  
Counseling, Development, and Higher Education  
M. Jean Keller, Dean of the College of Education  
C. Neal Tate, Dean of the Robert B. Toulouse School of  
Graduate Studies

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Following Barr and Tagg's formalization of the concept of learner-centered educational practice at the postsecondary level as described in their seminal article in Change in 1995, survey instruments have been developed to assess teachers' beliefs about their own learner-centeredness.. The research reported in this dissertation examined the connection between college students' perceptions of teacher effectiveness on each of four dimensions appearing as questions on the IDEA Survey of student reaction to instruction and courses (developed at the IDEA Center, Kansas State University, in the early 1970s) and the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey, College Level (developed in early 1999 by B. L. McCombs, University of Denver Research Institute; alpha reliabilities reported).

Using scoring rubrics accompanying the ALCP instrument, instructors were identified as learner-centered or non-learner-centered based on their responses. Independent t-tests were performed to determine whether learner-centered instructors were perceived differently by students in terms of teaching effectiveness than non-learner-centered instructors on each of four dimensions: overall excellence of course, overall excellence of instructor, effectiveness of

instructor in helping students achieve relevant objectives in the course, and effectiveness of course and instructor in improving students' attitude toward the field of study. Students rated learner-centered instructors higher in all dimensions, but results were not statistically significant.

Instructors were also identified as possessing learner- or non-learner-centered beliefs to a greater degree than that necessary for an overall designation. Independent  $t$ -tests were performed to determine any differences in student perceptions of effectiveness between these two groups. Again, students rated learner-centered instructors higher in all dimensions, but results were not statistically significant.

Recommendations for further research with the ALCP instrument are made, including research to determine whether specific factors and/or questions prove to be statistically significant in predicting student evaluations of effectiveness. Also recommended are replications of the study to investigate moderating variables influencing accurate faculty self-identification of beliefs about teaching and learning.

## TABLE OF CONTENTS

	Page
LIST OF TABLES.....	v
Chapter	
I. INTRODUCTION.....	1
Statement of the Problem	
Statement of the Hypotheses	
Purposes of the Study	
Significance of the Study	
Definition of Terms	
Assumptions	
Limitations	
Delimitations	
II. SYNTHESIS OF THE RELATED LITERATURE.....	14
III. PROCEDURES FOR COLLECTION AND ANALYSIS OF DATA.....	27
Design	
Population	
Instruments	
Procedures	
Analysis	
Testing the Hypotheses	
Reporting the Data	
IV. RESULTS.....	39
V. DISCUSSION .....	51
Conclusion	
Recommendations	

APPENDICES.....	60
Appendix A: Assessment of Learner-centered practices (ALCP): Beliefs Portion of the Postsecondary Level <u>Instructor</u> Survey .....	60
Appendix B: Survey Form—Student Reaction to Instruction and Courses.....	63
Appendix C: Short Form—Student Reactions to Instruction and Courses.....	66
Appendix D: Sample Analysis of IDEA Survey Data.....	68
Appendix E: IDEA Survey Faculty Information Form.....	70
Appendix F: Notification of Use of Data for Doctoral Dissertation Research (Provided to Respondents) .....	73
Appendix G: Notification of Use of Data for Doctoral Dissertation Research (Filed with the University).....	75
Appendix H: Independent Samples Test Table and Group Statistics Table as Produced by the Statistical Analysis Software.....	77
Appendix I: Factor Break-out by Question and Scoring key for the Assessment of Learner-centered Practices (ALCP): Beliefs Portion of the Postsecondary Level <u>Instructor</u> Survey (College Level).....	79
References.....	81

## LIST OF TABLES

Table	Page
1. Instructors Grouped by Gender, Categorized by Participation .....	44
2. Instructors Grouped by Teaching Experience at the Institution, Categorized by Participation.....	44
3. Learner-centeredness Overall, Progress on Relevant Objectives, Group Statistics and Two-tailed Significance .....	45
4. Learner-centeredness Overall, Improved Student Attitude, Group Statistics and Two-tailed Significance .....	45
5. Learner-centeredness Overall, Excellence of Teacher, Group Statistics and Two-tailed Significance.....	46
6. Learner-centeredness Overall, Excellence of Course, Group Statistics and Two-tailed Significance .....	46
7. Weighted Learner-centeredness, Progress on Relevant Objectives, Group Statistics and Two-tailed Significance .....	47
8. Weighted Learner-centeredness, Improved Student Attitude, Group Statistics and Two-tailed Significance .....	47
9. Weighted Learner-centeredness, Excellence of Teacher, Group Statistics and Two-tailed Significance.....	48
10. Weighted Learner-centeredness, Excellence of Course, Group Statistics and Two-tailed Significance.....	48

## CHAPTER I

### INTRODUCTION

In an article summarizing research on teacher beliefs and practices, Fang (1996) indicates that teacher education research over nearly two decades has begun to elucidate the association between classroom practices of teachers and their beliefs regarding students, teaching, and learning. His meta-analysis reveals multiple sources illustrating that “a teacher’s implicit theory [beliefs] about the nature of knowledge acquisition can also affect his/her behaviours and, ultimately, his/her students’ learning” (p. 50). He also indicates that “teachers’ thinking about their roles and the beliefs and values they hold help shape their pedagogy” (p. 53), even though his review does allow that contextual restrictions can cause incongruities between belief and practice. If the beliefs of teachers affect learning among students, identifying those beliefs that result in a greater likelihood of creating more and/or better student learning is one step toward ultimately helping teachers improve their teaching. As early as 1974, Brophy and Good posited such an approach as one method of improving educational effectiveness.

Fang’s examination of research develops a strong case to support a linearity that may be expressed this way: teachers’ beliefs lead to teachers’ actions which lead to students’ learning. Orton (1996) has articulated this

linearity thusly: “Teacher beliefs are related to student learning through something that the teacher does in the classroom” (p. 6). Collinson’s (1996) statement that teachers’ “beliefs about teaching are linked to their instructional decisions” (p. 7) and Johnson’s assertion (1992) that what teachers do generally reflects what teachers believe are good characterizations of the first half of the linearity, as is Pajares’ (1992) verification that teachers’ beliefs impact on classroom practices. Ennis, Cothran, and Loftus (1997) also support this concept: “Beliefs are usually influential in judgements [sic] about a course of action” (p. 74).

The second half of the linearity, viz., that the actions of teachers impact student learning, is borne out by numerous research studies and the resulting recommendations and texts on how teachers can improve their effectiveness (e.g., Davis, 1993; DePorter et al., 1999; Frey, 1996; McKeachie, 1994; Menges & Svinicki, 1991; Stage, Muller, Kinzie, & Simmons, 1998).

If this linearity exists and the final outcome in a given classroom is poor (little or no student learning), then recent research and reflection on the teacher beliefs-to-student learning nexus (Caine and Caine, 1997; Caine, Caine, & Crowell, 1994; Collinson, 1996; Crowell, Caine, & Caine, 1998; Fang, 1996; McCombs & Whisler, 1997; Stage, et al., 1998) point toward a corrective course of action. Teacher educators and faculty development personnel might now be wise to take the additional step to the left side of the linearity; that is, to help teachers identify and change limiting and/or inappropriate beliefs as a means of



ultimately improving their students' learning. As Williams (1996) states, "Success in schools may well depend on teachers' philosophical views and attitudes toward instruction" (p. 21).

Which beliefs are appropriate? Several researchers have investigated connections between teacher beliefs and student achievement (Caine & Caine and McCombs & Whisler), but the research has so far focused primarily on the K-12 levels. Stage, et al., (1998) make this point and call for "[e]xamination of instructors' beliefs about their own ability to teach and about their students' abilities to learn and the success of students in their classes" (p. 78) at the college level.

Though research thus far has occurred more frequently at the K-12 level in terms of examining the impact teacher beliefs have on student outcomes, there has been investigation and discourse about how to improve postsecondary teaching and learning. One model resulting in more effective college instruction is the learner-centered paradigm (Barr, 1995; Barr & Tagg, 1995; Felder & Brent, 1997; Gallup Organization, 1997; O'Banion, 1999). Learner-centered instructional practice at the postsecondary level includes such techniques as active and collaborative learning and other classroom practices which focus on how designing instruction that results in student learning instead of designing instruction based primarily on the presentation of material, which is termed a teacher-centered or instruction-centered approach.

The search for associations between beliefs of teachers and students' perceptions of teaching effectiveness at the college level, as this study did, addresses the literature's call for research (e.g., Stage, et al., 1998, p. 78) and may provide useful information for college teacher educators and faculty development personnel. This investigation also produced information that may be useful in assisting future researchers who will explore the learner-centered-beliefs-to-practices-to-outcomes linearity in education.

### Statement of the Problem

The problem of this study was to determine whether instructors possessing learner-centered beliefs differ from instructors possessing teacher-centered beliefs on measures of student-perceived effectiveness in each of four areas: progress toward relevant objectives, improvement in students' feelings toward the field of study, overall excellence of the teacher, and overall excellence of the course.

### Statement of the Hypotheses

The hypotheses of this study were:

1. Students perceive no difference between the ability of teacher-centered and learner-centered instructors to effectively facilitate students' accomplishment of relevant course objectives.

2. Students perceive no difference between the ability of teacher-centered and learner-centered instructors to effectively facilitate improvement in students' attitudes toward the field of study.

3. Students perceive no difference between the ability of teacher-centered and learner-centered instructors to be effective teachers.

4. Students perceive no difference between the ability of teacher-centered and learner-centered instructors to design, organize, and structure courses.

### Purposes of the Study

The purposes of this study were to:

1. Identify the learner-centeredness and teacher-centeredness of teachers at the institution where the study was conducted.

2. Determine how students of these teachers perceive the effectiveness of their teachers where effectiveness is assessed by students and defined in terms of:

a. how successful the teachers were at facilitating student progress toward objectives in the course;

b. how successful the teachers were at improving the attitudes of students toward the field of study;

c. how effective the teachers were as teachers; and,

d. how effective the teachers were in designing the course, its organization, its outcomes, its readings, and its overall structure.

3. Determine whether differences exist between student evaluations of teachers who believe themselves to be learner-centered and student evaluations of teachers who believe themselves to be teacher-centered.

4. Make recommendations for using the results of this study to guide teacher educators and faculty developers in their attempts to improve teacher effectiveness.

### Significance of the Study

Improving teaching effectiveness and student learning is a result with obvious benefits to the educational process, to teachers, and to students. The research reported here—which included as a major component an investigation of teachers' beliefs about learners and education at the postsecondary level—fits Armour-Thomas' (1989) characterization of a field of inquiry that could yield information instrumental in helping educators re-conceptualize the teaching-learning process. Certainly the concept of being learner-centered as opposed to information- or teacher-centered is a start in that direction. Additionally, this kind

of research helps “push teachers’ thinking about their beliefs and their classroom practice, [which] will help support the quest for understanding the process of educational change” (Meuller & Zeidler, 1998, p. 20) and supports the contention that “[s]elf-reflection and belief exploration should be a focal point of teacher education and an important part of a program’s curricular foundation” (Pajares, 1993, p. 48).

This study also addressed the need identified in the literature for research at the college level on teachers’ beliefs and their impact on student learning. As a natural next step following research at the K-12 level on the beliefs-to-practice-to-student-outcomes linearity, the results of this study can help faculty developers and teacher educators working with postsecondary instructors and instructors-to-be formulate more focused personal philosophies of instructional practice than would otherwise have been developed.

More specifically, though, this study produced information to help teacher educators and faculty developers more effectively design processes to assist faculty in adjusting those beliefs that limit their teaching effectiveness. Also, this study developed some specific information about how teacher beliefs impact teacher effectiveness. Even more specifically, the results of this study and their interpretation may be useful for strengthening the contention that learner-centered beliefs are foundational in many ways for teaching effectiveness.

## Definition of Terms

For the purposes of this study, the following definitions applied:

1. Learner-centered instruction. Describes beliefs, actions, processes, philosophies, ways of doing things, and ways of making sense of the purpose of education based on the belief that the outcome defining successful teaching is what the student learned. Subsets within the learner-centered instructional paradigm include such practices as collaborative learning and active learning.

2. Teacher-centered instruction (synonymous with information-centered instruction). Describes beliefs, actions, processes, philosophies, ways of doing things, and ways of making sense of the purpose of education based on the belief that the outcome defining successful teaching is successful presentation of the material to be learned.

3. Relevant objectives. As defined by Kansas State University's IDEA Center, relevant objectives in the course—one of the measures of student-perceived teaching effectiveness being examined in this study—are those objectives among the twelve listed in the “Objectives” section of the Faculty Information Form (Appendix E) filled out by faculty for each of their classes in which the IDEA survey is administered. Faculty select which objectives are relevant by indicating whether each objective is “Essential,” “Important,” or of “Minor Importance.” A “Minor Importance” selection means the instructor has identified the objective as not relevant. Student responses on questions relating

to the selected relevant objectives are used to calculate the “Progress on Relevant Objectives” rating.

4. Students’ attitudes toward the field. As defined by the IDEA Center at Kansas State University, this refers to students’ respect and appreciation for the discipline even if they choose to take no additional courses in it.

5. Effective teacher. This refers to students’ perceptions of instructors and their effectiveness as teachers.

6. Design, organize, and structure courses. This describes an instructor’s ability to appropriately define course outcomes, organize class and homework activities that contribute to the achievement of those outcomes, select readings that effectively illuminate and/or illustrate concepts related to the subject matter covered in the course, order and schedule course work in a manner that contributes effectively to students’ understanding of the course material, and other abilities required for successful preparation to teach the course.

7. Weighted Learner-Centeredness. This describes an instructor’s designation based upon scores on each of the three factors comprising the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level). This designation means the instructor did not receive a “non-learner-centered” score on any of the three factors and received a neutral score on none or only one factor.

## Assumptions

The following assumptions were made for this study:

1. Students' responses on the IDEA surveys actually reflect their honest evaluation of progress on relevant objectives.
2. Faculty self-ratings reflect actual beliefs held concerning teacher- and learner-centeredness. The dependability of the instrument is important, and research by the developer has validated the instrument acceptably. Information substantiating validity and reliability appears in the section describing the instrument.
3. It is possible that some teachers could simultaneously hold both learner-centered and teacher-centered beliefs. In such cases, the scoring rubrics for the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) provide the means necessary to identify such instructors and to generate appropriate overall characterizations of such instructors as being learner- or teacher-centered in general, or as holding sufficiently contradictory beliefs as to categorize them as being neither learner- nor teacher-centered, on balance, for the purposes of this study.
4. Instructors generally hold the same beliefs concerning learner-centeredness for all classes they teach. Beliefs about teaching in terms of learner-centeredness have to do with the process of teaching moreso than with



content. Additionally, for the population under scrutiny in this study, all instructors teach within one major program area as opposed to teaching in multiple disciplines.

### Limitations

A limitation of this study was that, for both the data collected from instructors and the data collected from students, self-ratings were used as the basis of measurement. The subjectivity involved in self-ratings has the potential to diminish the accuracy, at least in objective measurement terms, of the data. However, self-identification of beliefs is the most practical for this kind of study because accurate identification of beliefs made by an observer or interviewer would be prohibitively expensive and time consuming. Also, more research will need to be done to compare the accuracy of belief identification from subjective and objective viewpoints before using other-than-self ratings can be defended in terms of time and cost trade-offs.

Another limitation of the study involved the instrument used to collect data about teachers' beliefs. The researcher has confidence in the validity and reliability of the instrument based on the results reported by its developer. The instrument is recent, however, and therefore experience with the instrument in research settings and the subsequent reporting of that research in peer-reviewed venues has not occurred to the same degree as with older, more established

instruments. This study contributes to the body of literature supporting additional and more widespread use of the instrument in studies involving teacher beliefs.

Concerning the decision to use students' self-perceptions regarding progress on relevant objectives, the synthesis of related literature section addresses the issue of dependability of students' ratings versus outside evaluations.

### Delimitations

A delimitation of this study involved the selection of a single institution--a choice made because the researcher holds the position of Faculty Development Director there, and therefore has access to data from the IDEA instrument and the corresponding analyses from Kansas State University. Additionally, the researcher's position within the institution also provided a mechanism to administer the Assessment of Learner-Centered Practices: Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) as part of normal faculty development institutional effectiveness processes. Most importantly, the selection of this single institution, the Art Institute of Dallas, was made because the results of the study will be used specifically to help improve instruction there.

The delimitation concerning selection of the spring 1999 quarter was a matter of convenience.

Generalizability of this study's findings to other postsecondary institutions may be possible, but choice of a single institution was a delimiting factor because this study did not include sampling of teachers and students from a wide variety of institutions. Nonetheless, the nature of the single institution being studied—regionally accredited and offering associate's degrees—means the results may help inform practice at other such institutions.

## CHAPTER II

### SYNTHESIS OF THE RELATED LITERATURE

For decades educational research and teacher improvement strategies have focused on what teachers do; in recent years, “research on teaching and teacher education has shifted from a focus on teacher behaviors to a focus on teachers’ thought processes” (Doyle, 1997, p. 520). Current research is now showing that a focus on what teachers believe can also improve teacher performance. Collinson (1996), for example, states, “Teachers’ beliefs are linked to their instructional decisions” (p. 5). To be effective, such a focus should also include the provision of information about, and support for, changes in beliefs where appropriate.

Not only have researchers examined whether changing teachers’ beliefs can be an effective route to improving student learning, there have also been investigations into which beliefs inhibit, and which beliefs facilitate, good classroom practice and student achievement (Bandura, 1993; Caine, et al., 1994; Chickering & Gamson, 1987; Collinson, 1996; Fang, 1996; McCombs & Whisler, 1997; Schrenko, 1994; Smrekar, 1997; Stage, et al., 1998; Williams, 1996). For example, Bandura (1993) has demonstrated that self-efficacy beliefs of students and beliefs of teachers contribute significantly to student academic achievement. Self-efficacy is also among the beliefs which Caine & Caine

(1997) believe “create a different kind of environment, one rich in student learning” (p. 86). The Caines’ research, however, indicates that teachers having the most success facilitating student achievement also possess other beliefs, such as a belief that students’ ideas, needs, and interests should be factored into classroom planning and curriculum design. Beliefs in constructivism, self-efficacy, and the need to consider students’ individual characteristics and learning styles are all discussed by Stage, et al. (1998) as philosophical orientations that can result in effective postsecondary classroom practices which promote student learning.

Rosenthal and Jacobson (1968) investigated the pygmalion effect in the classroom, an effect in which student outcomes are impacted by teachers’ expectations of their students. Among the prompts for their investigation into this effect within education were the halo effect observed in industrial and business settings, and the placebo effect observed in medical settings, as well as a few investigations in school settings that produced evocative results. The authors’ own research showed that children taught by teachers who expected their students to achieve intellectually at high levels did, in fact, achieve at higher levels than children taught by teachers who had no special expectations of their students. This result, termed the expectancy effect by Rosenthal and Jacobson, led them to suggest that more research attention should be paid to teachers’ expectations about their students’ performance. Because the expectancy effect is an outcome determined by teachers’ beliefs about their students (the

expectation of higher achievement is a belief about student performance), Rosenthal and Jacobson's line of inquiry supports additional research and discussion on teacher beliefs and resulting classroom practice.

In addition to research, the reflective narratives of teachers are another source demonstrating a change to more effective classroom practice instigated by a change in belief about the instructional process. Goodenough's (1991) description is one such example of a college teacher's change to a more learner-centered belief about teaching and learning over the course of his career as a university professor.

One useful model that contains a set of beliefs shown to support student learning is the learner-centered paradigm. Barr and Tagg's (1995) article on the topic has spurred much research and discourse because the learner-centered approach to teaching is fundamentally different from the teacher-centered approach currently dominant in higher education. Learner-centered teachers and institutions focus on how much and how well students learn. Instruction-centered teachers and institutions focus on the instruction they provide; that is, the dissemination of information. McClenney (1998, p. 6), in her discussion of the learner-centered paradigm at the community college level, has summarized the transformation process of an institution moving to this paradigm by saying, "it is a shift from teaching to learning." Schrenko (1994) has identified the beliefs held by teachers and institutions that are learner-centered; the beliefs in her list are clearly different from beliefs that would be held by teacher-centered

instructors and institutions. Another example is Doyle's (1997) summarization of student teachers' beliefs about teaching and learning as being clearly teacher-centered (teaching is giving information and learning is receiving information) or clearly learner-centered (teaching is facilitating and learning is an active process of growth and change).

O'Banion (1999) suggests that the Palomar College (CA) mission statement captures the essence of what "learner-centered" means by stating, "We will judge ourselves henceforth on the quality of student learning we produce" (p. 3). Though Palomar defines itself as learner-centered, most postsecondary institutions still maintain the instruction-centered paradigm (Barr, 1995; Caine & Caine, 1997, p. 27; Garvin, 1991; Schroeder, 1993, p. 22; Smith & Kolosick, 1996).

One illustration of the dominance of the instruction-centered model is Barr's research of community colleges in California (1995). His investigation showed that virtually no California community college mission statement placed a focus on learning in its statement of purpose. Rather, these institutions characterized themselves in terms of being providers of instruction. Additionally, Barr found that California's educational reform legislation of the time defined the mission of community colleges in terms of instruction, not learning.

The policies and procedures that define an institution as teacher-centered or learner-centered are driven by the beliefs of people within that institution:

"Deeply-held systems of beliefs and assumptions, often rooted in the larger and

more traditional culture, are a significant influence on how learning centered a school can become” (Khattri & Miles, 1995, p. 279). As a corollary, the individuals within institutions can define themselves as teacher-centered or learner-centered based upon the beliefs they possess about the teaching-learning process and the role of teachers within that process.

In postsecondary institutions whose mission derives strongly from students’ achievement of outcome competencies as well as students’ persistence and satisfaction, any association between teacher beliefs and student perceptions of teaching effectiveness is important because students’ evaluation of teaching impacts both persistence and satisfaction. Additionally, the dependability of college students’ perceptions of teaching effectiveness compared to experts’ evaluations and student achievement of outcomes is high (Feldman, 1997; Lowman, 1984; McKinney, 1997). Therefore, student-perceived teaching effectiveness is one valid component in any overall rating of teacher effectiveness

There are currently calls from many quarters to improve the effectiveness of college teaching. One reason quoted as a need for change concerns the shifting demographics and value systems of today’s college students; Baiocco and DeWaters (1998, p. 15) say that “today’s college teachers will need to change their teaching methods significantly in order to improve this generation’s learning.” Some researchers posit that the developmental experiences, environmental influences, and socio-cultural expectations of students today have



had an impact to the extent that instructors at all levels now find themselves, literally, in front of human beings who may have very different expectations, skills, and resources of time, ability, and motivation compared to students of earlier generations (Diamond & Hopson, 1998; Healy, 1990; Jensen, 1998; Schroeder, 1993). Axelrod's (1980) longitudinal case study makes the point that a major factor in one college professor's evolution in teaching practices across his career was the changing characteristics of the students in his classes.

One reason to call for change, then, is that students have changed. Therefore the methods of teaching in colleges and universities that have been used for decades may no longer be relevant for all learners.

Another call for college teacher improvement comes from an institutional effectiveness perspective. Regional accrediting bodies expect colleges and universities to maintain ongoing faculty development programs and assessment to improve the quality of teaching, instructional delivery, and student learning (e.g., Southern Association of Colleges and Schools Commission on Colleges, 1996, pp. 20-21, 52). The process of continual monitoring of, and improvement in, teaching effectiveness is a given part of the institution's life as required by its accrediting agencies.

Recent discoveries in the fields of neuroscience have meant that many researchers now proclaim a need to change teaching strategies simply because we are learning more about the brain's natural learning processes. Those discoveries are showing us that many traditional ways of teaching are often

brain-antagonistic instead of brain-compatible (e.g., Caine & Caine, 1994; Dryden & Vos, 1994; Jensen, 1994, Rose, 1997). Teaching effectiveness, including higher student achievement and attainment of objectives, can and should be improved, according to these researchers, by employing brain-compatible teaching methods.

Another source recommending improvement in college teaching comes from those who demand accountability in terms of student learning and institutional performance measures. These voices are found among the ranks of employers who hire college graduates and legislatures that subsidize the education colleges have provided to their graduates and non-graduates (Baiocco & DeWaters, 1998). Such pressure is not within the public sector only. One proprietary, postsecondary group of institutions offering associate's and bachelor's degrees in a number of majors in the applied arts and sciences, includes graduates' outcome competency levels as a prime component in the evaluation of teaching effectiveness (M. Maki, personal communication, March 16, 1999; Mission Statement, Art Institutes International, 1997). Recognizing a need to improve college teaching, though, does not answer the question of how to do so. However, should not faculty development programs have answers for how to improve teaching effectiveness? The Austin College Faculty Development Program's mission statement, for example, proclaims its purpose as that of assisting "all faculty and support staff in improving classroom

instruction and student learning at Austin Community College” (Austin Community College Faculty Development, 1999).

Also, would not teacher education programs at colleges and universities be sources with expertise to improve teaching? Perhaps some would contend that if all teacher education programs were successful at producing graduates who were highly effective as teachers, then there would not be so much bad teaching occurring on college campuses.

The answer is not simple. Teaching and learning are complicated tasks whose outcomes are derived after a filtration process through numerous human variables. Compounding the difficulty is the fact that researchers and educators still do not possess the entire picture about how human brains, and humans in toto, learn--in spite of the fact that our knowledge on that score is rapidly expanding (Sousa, 1995).

As discussed earlier, there are now those theorists, researchers, and practitioners who suggest that improving teaching needs to begin at the belief level. Hughes (1994, p. 3), for example, argues that before teacher educators “can effectively influence teaching practices, they need to understand the relationship between teachers’ theories, both explicit and implicit, and their classroom behaviors.” McCombs and Whisler (1997, p. 27) maintain that working with the beliefs of teachers is a productive method to improve classroom practice when they say, “Teachers’ fundamental beliefs about education are

important because they consciously and unconsciously shape how teachers see and relate to learners, learning, and teaching.”

Additional recommendations to pursue this line of research come from Menges (1990), who describes a process in which faculty members should articulate their beliefs about teaching as the first step in understanding how their teaching practices result from their beliefs, and from Pajares (1993): “findings on the entering beliefs of preservice teachers may inform how they interpret and define important facets of their teacher education programs, information that would help teacher educators to determine program and curricular direction and avoid unintended outcomes” (p. 50).

From the individual instructor’s perspective, direction in how to improve classroom practice is generally welcomed. The critical importance of understanding what one believes about teaching and learning in order to improve one’s teaching is demonstrated in the statement made by Rando & Menges (1991, p. 13) that “every college teacher has a professional obligation” to discover such beliefs (called “personal theories” in Rando & Menges’ terminology).

Not only has the suggestion been made that identifying and addressing teachers’ beliefs can result in the improvement of classroom practice, there has also been research and discourse to examine the connection and suggest those kinds of teachers’ beliefs that are associated with good student learning (Alexander & Murphy, 1998; Barr, 1995; Barr & Tagg, 1995; Caine & Caine,

1997; Fang, 1996; Felder & Brent, 1996; Gallup Organization, 1997; McCombs & Whisler, 1997; O'Banion, 1999; Schrenko, 1994). Many among these voices propose that teachers who hold learner-centered beliefs generally do a better job of fostering, facilitating, and nurturing student motivation and achievement (Barr, 1995; Barr & Tagg, 1995; Caine & Caine, 1997; McCombs & Whisler, 1997; Stage, et al., 1998). Felder and Brent (1996), for example, say the learner-centered approach "enhances motivation to learn, retention of knowledge, depth of understanding, and appreciation of the subject being taught" (p. 43), and Fasko & Grubb (1997) state that effective teachers implement more learner-centered practices than less effective teachers. Teachers who do not believe themselves to be learner-centered will likely not use learner-centered practices in their classrooms, as verified by Caine & Caine (1997). The Caines, having identified and substantiated the beliefs-to-practice portion of the paradigmatic linearity described above, then focused their faculty development efforts on the belief change process as an integral part of helping faculty implement classroom practices that would improve student learning: "We hoped to change and expand their mental models--the actual belief system that guided their moment-to-moment actions" (p. 33).

In examining much of the literature touching on these areas, one can synthesize a general train of reasoning:

1. College teaching should be improved.

2. A new approach to such improvement is to identify and help teachers adjust inappropriate beliefs.

3. Such an approach has had success in improving teaching and student learning by using the paradigm of learner-centered education to define appropriate beliefs that translate to effective classroom practice.

The above revelations are intriguing. They point toward one potential answer to the question, “How do we improve college teaching?” By accepting the line of research which indicates that a belief change process must occur before lasting improvements in classroom practice happen as a result of moving teacher-centered teachers along the continuum toward learner-centeredness, one faces the immediate question of how to identify whether a particular teacher is learner-centered or teacher-centered. Withall (1991) tested an assessment instrument designed to do just that--the Preschool Teacher Verbal Behavior Index (PTVBI), which was found to be reliable and valid on both content and criterion measures.

McCombs and Whisler (1997) reported on an instrument developed and validated which allowed middle and high school teachers to rate themselves as to their degree of learner centeredness. The instrument, the Teacher Beliefs Survey, enables instructors to place themselves along a continuum of beliefs ranging from very teacher-centered to very learner-centered. The survey asks teachers to rate their answers to 35 questions on a 1-4 scale, with the questions grouped into three categories suggested by the learner-centered psychological

principles set forth in the 1993 findings of the American Psychological Association's Presidential Task Force on Psychology in Education. Using this survey as the assessment instrument, McCombs and Whisler found that students in classes taught by instructors having primarily teacher-centered beliefs were less motivated and achieved at lower levels than students in classes taught by instructors with learner-centered beliefs (p. 199).

Neither Withall's nor McCombs and Whisler's research was with teachers at the college level, however. Feldman's (1997) call for such research in higher education implies that a study of teacher beliefs is warranted by emphasizing the need for teachers to understand theory when he refers to the advisability of investigating the "specific articulations about which particular dimensions of instruction theoretically and empirically are more likely and which less likely to produce achievement" (p. 379). As recently as 1998, Stage, et al., clearly identified the need for research at the postsecondary level into beliefs held by teachers about their own teaching and their students' learning (p. 78).

The other measurement factor involved when investigating whether teacher beliefs affect student outcomes is the assessment of student outcomes. Assessment of outcomes is a much studied topic, and there are multiple ways to measure student outcomes. One approach is to use students' own evaluations of their progress as one indicator. Much research supports the idea that students' ratings of instructors are generally dependable indicators of instructor effectiveness (Aubrecht, 1979; Burdsal & Bardo, 1986; Cashin, 1995; IDEA

Center, Kansas State University, 1998b; Marsh & Duncan, 1997; McKinney, 1997; Runco & Thurston, 1987; Waters, Kemp, & Pucci, 1988). This approach can be particularly appropriate when the institution under scrutiny is one with a mission emphasizing student achievement, satisfaction, and persistence.

As opposed to the dearth of instruments thus far tested at the college level in measuring teacher beliefs, many instruments measure student evaluation of teaching effectiveness in higher education. One of them is the IDEA (Institutional Development and Effectiveness Assessment) Survey/Short Form - Student Reactions to Instruction and Courses (IDEA Center, Kansas State University, 1998c/1998d), a thoroughly tested instrument in use for many years by hundreds of colleges and universities.

Research has been done proving the worth of investigating how teacher beliefs affect student outcomes. A need exists, however, for research specifically within higher education on this issue. The opportunity exists to conduct such research by utilizing the recently developed Assessment of Learner-Centered Practices (ACLP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) (McCombs, 1999; Appendix A) and the IDEA instrument comprised of the Survey/Short form completed by students and the subsequent analysis provided by Kansas State University (IDEA Center, 1998a; Appendices B and C).



## CHAPTER III

### PROCEDURES FOR THE COLLECTION AND ANALYSIS OF DATA

#### Design

This research was descriptive and ex post facto. Teachers were categorized using the score cut-offs defined by the instrument's developers as learner-centered or non-learner-centered based on their scores on the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level). Means for student responses on each of the four items being examined from the IDEA survey were calculated by Kansas State University for each class of each teacher. A t-test for two sample means was performed to test for significant differences in student-perceived teaching effectiveness between learner-centered teachers and non-learner-centered teachers on each of the four items from the IDEA survey. Using a .05 level of significance with no prediction of directionality, each hypothesis in the study was tested.

The two-tailed test design for this study was favored over a one-tailed design. Consistent with the position taken by Welkowitz, Ewen, and Cohen (1982, pp. 148-149), "in almost all situations in the behavioral sciences, extreme results in either direction are of interest. Even if results in one direction are inconsistent with a given theory, they may suggest new lines of thought."

Additionally, a two-tailed design was favored here because the instrument being used to ascertain teachers' beliefs has only been recently developed, and prudence in the early usage of such a new instrument seemed wise.

### Population

The population examined in this study consisted of students and teachers in all programs of study during the spring 1999 quarter at the Art Institute of Dallas, Texas, a regionally accredited, proprietary, postsecondary institution offering associate's degrees.

The size of the student body at the institution was approximately 1300 students during the spring 1999 quarter. All students participate every quarter in completing a course/instructor evaluation instrument, the Institutional Development and Effectiveness Assessment (IDEA) survey. Every instructor is evaluated using IDEA every quarter. Kansas State University analyzes all data collected on the IDEA instrument from all students; no sampling of responses is involved.

Because the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) was administered to all instructors, no sampling occurred among instructors. Therefore, the population under study and the routine examination of all data

(without sampling) on the IDEA instrument meant that no sampling occurred in the research.

In terms of potential learner-centeredness or non-learner-centeredness, the population of instructors in this study seemed appropriate. Because the institution describes itself as learner-centered in its mission statement, and because the institution has conducted learner-centeredness training for a pilot group of faculty, it seemed reasonable to expect there would be enough learner-centered instructors, as identified by the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level), to provide a dependable statistical analysis. It also seemed reasonable to expect that enough non-learner-centered instructors would be present for dependable statistical analysis because the institute's ongoing faculty development initiatives have identified a need for learner-centeredness development among some of the faculty. Also, the growth of the institution meant several new instructors had been hired who were unfamiliar with learner-centeredness as an instructional paradigm.

## Instruments

The Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level)—Appendix A—was developed by B. L. McCombs, Senior Research Scientist, Human Motivation,

Learning, and Development, University of Denver's Research Institute (1999). This instrument is a refinement based on use by postsecondary teachers; the original instrument was the Teacher Beliefs Survey developed at the Mid-continent Regional Educational Laboratory. Validation of that original instrument took place in a large-scale study involving more than 660 middle and high school teachers from varying school types and sizes around the country (McCombs & Lauer, 1997; McCombs & Whisler, 1997, p. 229) and has been used successfully at many institutions since its development (B. L. McCombs, personal communication, January 6, 1999). Additionally, Fasko & Grubbs' (1997, p. 15) "results compare favorably with results of McREL validation studies completed with the Learner Centered Battery," a group of instruments including the Teacher Beliefs Survey.

The survey asked respondents to categorize themselves as strongly disagreeing, somewhat disagreeing, somewhat agreeing, or strongly agreeing with each of thirty statements. Numerical values of 1, 2, 3, and 4, respectively, were assigned to each category with each statement.

As part of McCombs' refinement of the original Teacher Beliefs Survey in order to produce an instrument specifically designed for use at the college level, she administered the Teacher Beliefs Survey to "157 instructors from 10 U.S. colleges" and obtained alpha reliabilities for the three subscales of .87 (learner-centered beliefs about learners, learning, and teaching), .75 (non learner-centered beliefs about learners), and .75 (non learner-centered beliefs about

learning and teaching) (B. L. McCombs, personal communication, June 16, 1999). In the development of the college level instrument being used in this study, McCombs dropped items from the Teacher Beliefs Survey that had low item-remainder correlations. The elimination of such items meant the instrument used in this research had even better alpha reliabilities (B. L. McCombs, personal communication, June 16, 1999). These reliability measures are deemed acceptable for this kind of research (Henerson, Morris, Fitz-Gibbon, 1987).

The three subscales of the instrument, termed factors 1, 2, and 3 by McCombs, are each comprised of a group of questions. The entire list of thirty questions appears as Appendix A, and the groupings of those questions into the three factors can be seen in the categorization provided in the scoring key (Appendix I).

The averages of the scores for each subsection determine whether the instructor is learner-centered or non-learner-centered on that factor. Based on McCombs' research (McCombs & Whisler, 1997), for factor 1—learner-centered beliefs about learners, learning, and teaching—an average above 3.4 indicates the instructor is learner-centered; an average below 2.0 indicates the instructor is non-learner-centered. For factor 2—non-learner-centered beliefs about learning and teaching—an average above 2.4 indicates the instructor is non-learner-centered; an average below 2.0 indicates the instructor is learner-centered. For factor 3—non-learner-centered beliefs about learners—an average above 2.4

indicates the instructor is non-learner-centered; an average below 2.0 indicates the instructor is learner-centered. Scores falling between the upper and lower cut points for the factors indicate that the instructor is neither learner-centered nor non-learner-centered on that factor.

It is also possible that the same instructor may be scored as being learner-centered on one factor and non-learner-centered on another. In such cases, an overall determination can be made if the scores on two of the three factors indicate the same categorization. An instructor who scores as neutral on two of the three factors would be considered neutral overall.

The Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) was selected for this study because it was specifically designed to identify beliefs teachers have about teaching and learning--one of the concepts being examined in this research.

The ALCP Survey also provides the ability to identify the degree to which instructors possess learner-centered on non-learner-centered beliefs. This can be done either by noting the scores on the three factors or by noting how instructors are categorized (learner-centered, neutral, or non-learner-centered) within each of the factors.

The IDEA Student Ratings of Instruction, Survey Form and Short Form (Appendices B and C, respectively) are from the Kansas State University IDEA Center. These surveys have been used by over 600 colleges and universities in the United States to assess students' evaluations of their courses and

instructors. Kansas State's IDEA Center provides the analysis of the data collected on the forms. A sample analysis of the data appears as Appendix D.

The Art Institute of Dallas uses the IDEA survey every quarter. During the course of a year, instructors administer the survey (long) form to only one of their classes in an assigned quarter. The other three quarters of the year, instructors administer the short form to all their classes. In this manner, instructors receive long-form feedback once per year from one class. The institution provides long-form feedback to the instructor only; supervisors do not see the results. Short-form feedback is received by the instructors and their supervisors.

For the purposes of this study, there is no difference between long-form and short-form feedback because each measure of student-perceived effectiveness defined within the hypotheses appears as the same question on both the long form and the short form.

### Procedures

Collection of all student data proceeded under the institution's normal and ongoing process for administering the IDEA survey. The only adjustment to that process necessitated by this research was the inclusion of a notification to students that results of data collected during spring quarter 1999 would be used for this research in addition to its use in the normal manner (Appendix F). This adjustment was made in compliance with human subjects testing protocols.

Student data and corresponding results received from Kansas State included identifications of classes and instructors; the researcher was, therefore, able to match student responses to individual instructors.

Collecting data from instructors was done by administering the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) to spring quarter 1999 faculty during Week 4 of summer quarter 1999. This process involved distribution of the surveys to the boxes used by faculty to receive daily attendance scanning sheets. This meant surveys were received by all faculty during week 4 because all faculty were required to obtain their attendance scanning sheets before classes began.

The researcher sent the instrument to any faculty who might not be teaching summer quarter but who did teach during the spring quarter and whose contact information was available.

Receipt of surveys from faculty occurred because faculty were directed to deliver the completed surveys to a collection point in front of the Dean's office. This procedure has been used many times for collecting faculty responses on issues of institutional effectiveness. As part of his duties as Faculty Development Director, the researcher gathered these responses from the collection point. The researcher received any mailed surveys directly.

As with students, instructions for filling out the Teacher Beliefs Survey included notification that the data being collected were used in this study



(Appendix G). The researcher, in his position as Faculty Development Director at the institute, was available to answer questions faculty had about filling out the survey. Contact information accompanied mailed surveys, which enabled those instructors to receive answers to any questions. Faculty returned the surveys to the researcher at his office at the institution or mailed their responses to him directly.

### Analysis

The procedure for analyzing the data was:

1. Kansas State University's IDEA Center analyzed the raw data from students in the normal manner carried out at the institution: collection of forms from the drop-off point in front of the Dean's office, ensuring that the forms were grouped correctly by class and filled in properly in pencil, and then shipping the forms to Kansas State. Results of the data analysis performed by Kansas State were returned in both hard copy and disk formats along with the original student surveys and faculty information forms. Each instructor's scores on the four items were noted for each class in which IDEA was administered (approximately 25 percent of instructors administered the IDEA instrument in only one of their classes and used the long form version; the other 75 percent of instructors administered the short form version in all their classes).

2. The researcher analyzed instructors' ratings on the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) in accordance with scoring rubrics accompanying the instrument (Appendix I). As a result, teachers were categorized on average as possessing learner-centered or non-learner-centered beliefs.

3. The researcher entered the derived data into SPSS Statistical Analysis Software Version 9.0 in order to run a two-sample  $t$ -test for each of the hypotheses. Results of the tests determined whether significant differences (an alpha of less than .05) existed between the means of the two groups.

### Testing the Hypotheses

To test the hypotheses of the study, the null form was assumed: that no significant difference in student-perceived teaching effectiveness in each of the four dimensions examined exist between learner-centered teachers and non-learner-centered teachers.

For each hypothesis in the study, the independent samples test generated Levene's Test for Equality of Variance and reported results that identified whether the  $t$ -test assumptions for equality of means and variances were met. The proper assumption was then made with the resulting 2-tailed significance value identified and compared to an alpha of .05.

For values of .05 or less, the hypotheses was rejected and a corresponding assumption made that there is a difference in student-perceived effectiveness of learner-centered teachers compared to non-learner-centered teachers on the dimensions measured. For values greater than .05, the hypotheses was not rejected and a corresponding assumption was made that there is no difference in student-perceived effectiveness of learner-centered teachers compared to non-learner-centered teachers on the dimensions measured.

### Reporting the Data

The tables from the software analysis program (samples provided as Appendix H) were the reporting mechanism. Data from the tables generated by the software analysis program are shown in the tables included as part of the discussion of the results of this study. As in the samples shown in Appendix H, group statistics and independent samples reports have been provided, except that “lc” (denoting “learner-centered”) and “nlc” (denoting “non-learner-centered”) appear as labels instead of “Catholic” and “Muslim” as shown in the group statistics report sample from the software analysis program.

In this software, the significance values are reported as actual calculated numbers, not merely as indicators that exceed or do not exceed the critical

levels. Therefore, the significance value reported on the data in the tables are the key value in rejecting or not rejecting each null hypothesis.

## CHAPTER IV

### RESULTS

The  $t$  scores reported on the IDEA instrument for each of the four student responses being examined in this study were entered as data in a file in SPSS 9.0 statistical software. Tables 3-6 in this section contain data showing results based on a grouping of instructors in terms of overall learner-centeredness. Table 3 contains data which report results related to students' perceptions of how successful the instructor was at helping the class accomplish relevant objectives in the course. Table 4 contains data which report results related to students' perceptions of teacher effectiveness in improving student attitude toward the field of study. Table 5 contains data which report results related to students' perceptions of overall teaching effectiveness. Table 6 contains data which report results related to students' perceptions of overall course excellence.

Tables 7-10 in this section contain data reporting results related to the same four categories of students' perceptions but based on a grouping of instructors in terms of weighted learner-centeredness.

For instructors who used the long form of the IDEA instrument administered to only one class during spring quarter 1999 (and therefore having only one  $t$  score for each question), that score was entered. For instructors who used the short form in all their classes during spring quarter 1999, the entry for

each question was the mean of the scores reported for that question (i.e., the  $\bar{x}$  score average for that question in all the instructor's classes).

Based upon figures from the national database of  $\bar{x}$  scores for instructors at all colleges and universities administering the IDEA survey over many years' time, Kansas State University's IDEA Center deems scores between 45 and 55 to be within the average range on the questions examined (Appendix D).

Instructors' ratings for each of the thirty items of the Assessment of Learner-Centered Practices (ALCP): Beliefs Portion of the Postsecondary Level Instructor Survey (College Level) were entered for each instructor.

Of the total of 82 instructors who taught spring quarter at the Art Institute of Dallas, a few instructors did not, for various reasons, administer the IDEA survey in their classes. Cells for IDEA  $\bar{x}$  scores for those instructors were left blank. Additionally, some instructors did not complete the ALCP Survey. ALCP ratings cells for those instructors were also left blank. Some reasons for non-participation included instructors who did not teach at the institution the next quarter and who were unreachable by the investigator, faculty promising return of surveys but who did not turn them in, and possibly some instructors who did not wish to participate.

The total number of faculty who completed the ALCP Survey was 69. The number of faculty who administered IDEA in their classes spring quarter 1999 was 72. Some of the faculty who did not administer IDEA were also faculty who did not complete the ALCP Survey.

The result was that data were complete for only 64 instructors. Though not information considered in this research, there were 38 males and 26 females among the 64 instructors, and instructors having less than one year of teaching experience at the institution numbered 13 in that group.

Each instructor's rating was next entered on each of the three ALCP factors concerning learner-centeredness using rubrics provided by the developer of the instrument (McCombs & Whisler, 1997). Because the rubrics include learner-centered and non-learner-centered cut-off points for each of the three factors, it was possible to identify each instructor's response as learner-centered, neutral, or non-learner-centered for each of the three factors. These were the ratings entered. If an instructor scored a learner-centered rating on a factor, an identifier of "1" was entered; a neutral rating resulted in "0,"; and a non-learner-centered rating resulted in an entry of "-1."

An overall rating for instructors as being learner-centered or non-learner-centered was possible based on their combination of scores among the three factors. An identifier of "1" was used to show that the instructor's overall score designated him as learner-centered. An identifier of "2" was used to show that the instructor's overall score designated him as non-learner-centered. For instructors who overall garnered a neutral score regarding learner-centeredness, no designation was entered, and the cell was left blank. Such instructors were excluded from analysis when testing for differences between learner-centered and non-learner-centered instructors. This variable, which identified instructors

on an overall basis as learner-centered or non-learner-centered, was labeled “Icova11.”

Because it is possible when using the scoring rubrics to find cases in which an instructor is designated as learner-centered on one factor but non-learner-centered on the other factors, or vice versa, the overall learner-centeredness designation was determined by noting whether an instructor did or did not have two similar designations among the three factors. In other words, if an instructor scored as learner-centered or neutral on one factor but non-learner-centered on the other two factors, the instructor was designated a non-learner-centered instructor. For cases in which an instructor was learner-centered on one factor, non-learner-centered on another factor, and neutral on the third factor, a designation of neutral overall was given.

Finally, a “weighted learner-centeredness” designation was determined. This designation identifies those instructors who scored in the same learner-centeredness category on all three factors or who were in the same category for two factors and neutral in the third.

Thus, the “weighted learner-centeredness” variable identified those instructors who did not score as being both learner-centered and non-learner-centered and who were neutral on no more than one factor.

The investigator’s purpose in deriving the “weighted learner-centeredness” variable was to determine whether a difference in the degree to which instructors



identified themselves as learner- or non-learner-centered might impact the findings. This variable was labeled “wghtedlc.”

For clarity in viewing the results of the statistical analysis of the data, the label “lc” was used for learner-centered, and “nlc” was used for non-learner-centered in the tables included in this chapter.

Tables 1 and 2 provide demographic information about the instructors in the study.

Tables 3-6, respectively, show no statistical difference between mean  $t$  scores for each of the four IDEA questions based on whether the instructor in the class was identified by the ALCP Survey as being learner-centered or non-learner-centered. These tables show results for instructors’ overall learner-centeredness or non-learner-centeredness designations.

Tables 7-10, respectively, show no statistical difference between mean  $t$  scores for each of the four IDEA questions based on instructors’ weighted learner-centeredness or non-learner-centeredness designations as identified by the ALCP Survey and using the “weighted” description as defined above.

All ten tables appear on pages 44-48.

Table 1

Instructors Grouped by Gender, Categorized by Participation


---

Group	<u>N</u>	Cmpltd. ALCP	Administered IDEA	Non-partici- pants	Cmpltd. both IDEA and ALCP
male	51	41	44	4	38
female	31	28	28	1	26
Totals	82	69	72	5	64

---

Table 2

Instructors Grouped by Teaching Experience at the Institution, Categorized by Participation


---

Group	<u>N</u>	Cmpltd. ALCP	Administered IDEA	Non-partici- pants	Cmpltd. both IDEA and ALCP
>1 yr.	59	54	53	3	51
<1 yr.	23	15	19	2	13
Totals	82	69	72	5	64

---

Table 3

Learner-centeredness Overall, Progress on Relevant Objectives, Group Statistics and Two-tailed Significance

---

Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
lc	9	59.5033	3.8884	1.2961	.172
nlc	40	56.3068	6.6313	1.0485	.069

---

Note. The total number of respondents is less than 64 because not all faculty could be designated as learner- or non-learner-centered overall.

Table 4

Learner-centeredness Overall, Improved Student Attitude, Group Statistics and Two-tailed Significance

---

Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
lc	9	55.8344	4.4157	1.4719	.332
nlc	40	53.4060	7.0951	1.1218	.205

---

Note. The total number of respondents is less than 64 because not all faculty could be designated as learner- or non-learner-centered overall.

Table 5

Learner-centeredness Overall, Excellence of Teacher, Group Statistics and Two-tailed Significance

---

Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
lc	9	55.8511	3.1374	1.0458	.219
nlc	40	53.2755	5.9881	.9468	.081

---

Note. The total number of respondents is less than 64 because not all faculty could be designated as learner- or non-learner-centered overall.

Table 6

Learner-centeredness Overall, Excellence of Course, Group Statistics and Two-tailed Significance

---

Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
lc	9	56.0167	3.9750	1.3250	.375
nlc	40	53.8125	7.0962	1.1223	.218

---

Note. The total number of respondents is less than 64 because not all faculty could be designated as learner- or non-learner-centered overall.

Table 7

Weighted Learner-centeredness, Progress on Relevant Objectives, Group Statistics and Two-tailed Significance

Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
wghtd. lc	3	59.0733	3.7693	2.1762	.650
wghtd. nlc	26	57.4431	5.9519	1.1673	.552

Note. The total number of respondents is less than 64 because not all faculty could be designated as weighted learner- or non-learner-centered.

Table 8

Weighted Learner-centeredness, Improved Student Attitude, Group Statistics and Two-tailed Significance

Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
wghtd. lc	3	54.8500	5.2742	3.0451	.771
wghtd. nlc	26	53.5204	7.5545	1.4816	.720

Note. The total number of respondents is less than 64 because not all faculty could be designated as weighted learner- or non-learner-centered.

Table 9

Weighted Learner-centeredness, Excellence of Teacher, Group Statistics and Two-tailed Significance

---

Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
wghtd. lc	3	55.2100	1.6533	.9545	.624
wghtd. nlc	26	53.5804	5.5751	1.0934	.289

---

Note. The total number of respondents is less than 64 because not all faculty could be designated as weighted learner- or non-learner-centered.

Table 10

Weighted Learner-centeredness, Excellence of Course, Group Statistics and Two-tailed Significance

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Group	<u>N</u>	Mean	Std. Dev.	Std. Error Mean	2-tail Sig.
wghtd. lc	3	55.9600	6.9111	3.9901	.722
wghtd. nlc	26	54.3477	7.3899	1.4493	.733

---

Note. The total number of respondents is less than 64 because not all faculty could be designated as weighted learner- or non-learner-centered.

Though not statistically significant at the .05 level, data in Tables 3-6 show that learner-centered instructors' scores on all four IDEA questions were, on average, higher than the scores given by students to non-learner-centered instructors. This was true for the overall learner-centeredness designation as well as for the weighted learner-centeredness designation, shown in Tables 7-10.

Significance levels shown in the tables vary widely depending on which of the four IDEA questions were being examined. Though there was not an indication before the study that there might be unequal variances between instructors identified as non-learner-centered compared to those identified as learner-centered, even the tests assuming unequal variance did not show significance at the .05 level.

It is interesting to note the difference in numbers of instructors designated as overall learner-centered compared to the number designated as weighted learner-centered. The same difference is of interest among non-learner-centered instructors. Of the 64 instructors whose data were examined in this study, only three were identified as being very strongly learner-centered (Tables 7-10), and though not characterized by as large a difference proportionately, there was a marked difference between the number of instructors designated as overall non-learner-centered compared to the number designated as weighted non-learner-centered. The relative recency of the ALCP Survey means there is not yet a large number of research studies reported in the literature using the

instrument; therefore, it is probably premature to speculate on whether these proportions of overall learner-centered and weighted learner-centered instructors compared to overall and weighted non-learner-centered instructors are typical.

The results of this study, as indicated in Tables 3-10, do not support an alternative hypothesis. As shown here, there was not a statistically significant difference between students' perceptions of teacher effectiveness on the four dimensions identified for examination in this research.



## CHAPTER V

### DISCUSSION

An examination of the data showed that, on average, students tended to rate learner-centered instructors higher than non-learner-centered instructors on each of the four dimensions selected for this study, but the findings did not support the rejection of the null hypothesis; that is, the findings in this study did not show a statistically significant difference in students' perceptions of teachers in the four dimensions studied.

Two other results in particular are intriguing: the overall number of ALCP-Survey-designated learner-centered instructors at the Art Institute of Dallas, an institution that has made a commitment to learner-centeredness, seems small (only nine of the 64 instructors involved in the study), and the number of instructors exhibiting a great deal of learner-centeredness (again, as measured by the ALCP Survey) is very small—only three. Because so few instructors—less than twenty—were designated as learner-centered, the dependability of the statistical analysis in terms of group comparison is less than desirable. This outcome was not anticipated given the characteristics of the population under study. This outcome is also one reason to call for replication of the study with a population more likely to ensure adequate numbers for statistical treatment.

It may also be that believing oneself to be a truly learner-centered instructor at the institution under study is moderated by other variables involved. Such moderator variables could be lack of training in the use of learner-centered classroom techniques or administrative and/or environmental constraints that mitigate instructors' tendencies to use learner-centered techniques. Therefore, instructors' beliefs that they are teaching in a learner-centered fashion would be lessened.

It must be remembered that one assumption of this study was that instructors would accurately identify themselves as possessing learner-centered beliefs (or not) when prompted by questions on the ALCP Survey. Perhaps instructors suffered a bit of cognitive dissonance when answering the survey—they may have thought they believed a certain thing about teaching or learning or their students when asked about it in one of the thirty ALCP Survey questions, but their true belief, as indicated by their actions in the classroom that are noted by students, may have been different from the responses the instructors marked on the survey. Such an assumption is inherent in all self-rated survey instruments, though, and one must depend on validity and reliability indications for the survey in use. Validity and reliability ratings on the ALCP Survey are very respectable, so one must assume that the instructors in this study rated themselves accurately as to whether they consciously hold learner-centered or non-learner-centered beliefs.

A thornier issue with which to deal, however, is whether stated beliefs translate accurately into classroom practice. There is no doubt that personal beliefs about learning and teaching affect how one teaches (Caine & Caine, 1994, 1997; Caine, Caine, & Crowell, 1994; Khattri & Miles, 1995; McCombs & Whisler, 1997), but what one says one believes and what one actually believes may be two different things. The field of psychoanalysis offers countless examples in which true intents, beliefs, and desires are hidden from conscious awareness. Similarly, in the realm of education, Caine, Caine, and Crowell (1994) make the point that teachers' stated beliefs about teaching and learning may not be congruent with their actions and decisions. In such instances, instructors' true beliefs may be hidden from their conscious awareness.

This phenomenon may account for some of the reason that statistical significance was not found in this study, though the small number of learner-centered instructors (as identified on the ALCP Survey) means that a dependable measurement of significance in this study may be a moot point. Perhaps some instructors answered survey questions in a way that resulted in their categorization as learner-centered when their classroom practices were really not those of learner-centered instructors. If so, a fascinating line of inquiry for future research would be whether a tool can be developed that will identify discrepancies between conscious expression of beliefs about learner-centeredness and beliefs about learner-centeredness actually possessed.

Working backward from classroom observation as the means to identify beliefs about teaching and learning may result in more accurate identification of teachers' beliefs. As discussed in the limitations to the study, however, such investigation was prohibitively time consuming and expensive.

Another possibility for the lack of statistical significance in these findings may be that students' perceptions of teacher effectiveness are suspect. Some would argue that means other than student ratings could be more accurate indicators: test scores, for example, or on-the-job evaluations of graduates' performance by their employers.

However, the IDEA instrument is a measurement tool with research confirming both validity and reliability in its use at hundreds of postsecondary institutions across nearly three decades. When coupled with the large body of evidence showing that student ratings are accurate and useful when evaluating instructors (Cashin, 1995; Feldman, 1997; Lowman, 1984; McKinney, 1997), the researcher is convinced that lack of statistical significance is not related to measurement error inherent in the IDEA instrument.

Another factor to consider in interpreting the results is that self-identification of beliefs, no matter what instrument is used to determine those beliefs, is complicated and subject to human error. For example, the error of central tendency—the tendency of an observer to rate the person observed toward the middle of the scale in order to avoid making a decision that the observed individual has performed truly outstandingly or truly abysmally—is a

pitfall when rating others; certainly, it is also a pitfall when rating oneself. It may be that, with its focus on learner-centeredness as part of its mission, the institution where the faculty in this study worked may have only partially succeeded in its progress toward learner-centeredness among its instructors. “Partial success” might mean that instructors have an awareness of what true learner-centeredness is, and, in the absence of long-term faculty development on how to bring that about in the classroom, judge themselves too harshly on ratings of learner-centeredness. This might lessen the probability that a teacher who really is learner-centered would self-identify as being learner-centered. The result would be that more teachers than indicated by the ALCP Survey actually do possess learner-centered beliefs, and their self-identification as having neutral or non-learner-centered beliefs would create inaccuracies in the data obtained.

Finally, it may be that the concept of learner-centeredness was just too new to the faculty under study for many of them to have had the time to move from understanding and accepting a belief in learner-centeredness to developing exemplary classroom practices that are learner-centered. In short, there may not have been many practicing “experts” in learner-centeredness among faculty at the Art Institute of Dallas. Consequently, there would have been fewer differences noted in students’ observations of teaching effectiveness because there were very few instructors who both rated themselves as believing they are highly learner-centered and whose students rated them highly because the

instructors' beliefs were firmly enough entrenched to result in exemplary learner-centered classroom practice. Some insight into such speculation might be gained when studies are conducted in which observers rate groups of college instructors as to their learner-centeredness and then compare their ratings to the instructors' self-identified beliefs about learner-centeredness.

### Conclusions

The primary conclusion to be drawn from the results of this study is that the null hypotheses of the study—that there is no difference in students' perceptions of teaching effectiveness based on teachers' beliefs about their own learner-centeredness—was not rejected. This means that, statistically speaking and based on this one study with its design, processes, and instruments for data collection, teachers' beliefs about their own learner-centeredness do not have an impact on how students rate those teachers' effectiveness. Again, because so few instructors were identified as learner-centered, thereby calling into question the advisability of comparing groups, the above statement should be interpreted within the limitations inherent in comparing groups of extremely small size.

An additional mitigating factor in evaluating the results of the study is that so few of the instructors scored as being learner-centered on the ALCP Survey. Among the 64 instructors on whom data were collected, many had been identified repeatedly in students' comments as exhibiting learner-centered

actions (though students did not use that terminology). This knowledge about the instructors prompts the investigator to seek additional information about the seeming disparity. As mentioned in the discussion above, it is not the measurement instrument that is suspect in this case; several reasons exist for why instructors may inaccurately self-identify about their beliefs. On the other hand, if the instrument could be improved, the result would be more accurate belief identification which ultimately might result in statistical significance being shown.

Given the research and discourse in the literature about teacher beliefs, and learner-centeredness as a belief in particular, the researcher concludes that more research involving the use of belief identification instruments (an inherently difficult thing to measure) is warranted to further examine the connection between student perceptions of effectiveness and teachers' beliefs in their own learner-centeredness.

### Recommendations

The discussion above leads to several recommendations.

1. More accurate means of assessing teacher beliefs about learner-centeredness should be developed. One method would be the continuing refinement of the ALCP Survey instrument; other methods would include developing and/or refining other belief measurement techniques. For example,

the development of classroom observation instruments to gauge postsecondary instructors' beliefs about teaching and learning would be useful not just for studies such as this one, but also for other lines of inquiry into how to improve college teaching.

2. While the purpose of this study was to examine differences between teachers possessing, on an overall basis, learner-centered beliefs compared to teachers possessing non-learner-centered beliefs in terms of student perceptions of teaching effectiveness, it may be useful to examine specific factors and/or specific questions among the items on the ALCP Survey when looking for such differences. If specific items, for example, on the ALCP Survey can be shown to be better indicators that the instructor possesses learner-centered or non-learner-centered beliefs, then addressing issues related to those items during teacher education and faculty development would be beneficial.

3. Replicate this study with other groups of faculty. There are enough intriguing findings in these results to warrant continued investigation, especially concerning the possibility that moderating factors influence instructors' accurate identification of their own beliefs about teaching, learners, and learning.

4. Examine for any differences that might exist in teacher beliefs based on differences in teachers' characteristics. For example, if age, gender, race, or years of teaching experience, for example, correlate with differences in teachers' beliefs, researchers might have clues about the belief inculcation process and could possibly use that information to assist faculty in identifying and reflecting



upon what their beliefs about teaching and learning are. Such information might also offer clues about where to begin in the process of adjusting inappropriate beliefs.

5. Work to develop a tool that would identify discrepancies between conscious expression of beliefs about learner-centeredness and beliefs about learner-centeredness actually possessed.

6. Research the effectiveness of various belief change methods. This study shows a tendency that students rate teachers as more effective if they have certain beliefs. Teachers who would like to adopt useful beliefs about teaching and learning will need guidance not only in identifying current beliefs held, but also in changing those beliefs that limit their teaching effectiveness. As well, teacher educators and faculty developers who deal with the philosophical underpinnings of good educational practice as they work with faculty and faculty-to-be deserve good information about the belief identification and change process.

APPENDIX A

ASSESSMENT OF LEARNER-CENTERED PRACTICES (ALCP):

BELIEFS PORTION OF THE POSTSECONDARY LEVEL

INSTRUCTOR SURVEY (COLLEGE LEVEL)

## THE ASSESSMENT OF LEARNER-CENTERED PRACTICES (ALCP): Beliefs Portion of the Postsecondary Level INSTRUCTOR Survey (College Level)©

**DIRECTIONS:** A number of statements that college instructors have used to describe themselves are shown below. Please read each statement carefully. Decide to **what extent** you agree or disagree with each statement. Do you *strongly disagree*, *somewhat disagree*, *somewhat agree*, or *strongly agree*? Blacken the appropriate space on the answer sheet to indicate your choice. Answer carefully, but don't think too much about any one question. **PLEASE ANSWER EVERY QUESTION. Your responses will be kept private and confidential. They will NOT be shown to your administration.**

**Responses:** A=Strongly Disagree, B=Somewhat Disagree, C=Somewhat Agree, D=Strongly Agree

1. Listening to college students in a caring way helps them solve their own problems.
2. I have to be the authority in my field and can't allow myself to make mistakes with my students.
3. When instructors encourage students to express their personal beliefs and feelings in class, they achieve more.
4. Too many college students do not have the maturity they need to succeed and expect to be pampered.
5. Many college students have not mastered basic reading and study skills needed for college level work.
6. For deep and meaningful learning to occur, it is necessary for me to see things from the students' point of view and provide opportunities for them to share their perspectives.
7. If students refuse to learn there is little I can do to motivate them.
8. Even at the college level it is just as important to learning to address students' social, emotional, and physical needs as it is to meet their intellectual needs.
9. There are some students who don't know how to figure out their mistakes even when I take the time to provide individual feedback.
10. My most important job as an instructor is to help students understand what it takes to succeed in the real world.
11. The most important element for student learning and motivation is to take the time to create caring relationships with my students.
12. It is just as important to help students understand how their beliefs about themselves influence their learning and motivation as it for them to work on their academic skills.
13. By the time some students get to college, it's just too late to help them learn prerequisite knowledge and skills.
14. To be an effective college instructor, the most important thing is to know my subject matter really well.
15. If students appear to be uninterested in what I am teaching, I know I can help them regain their interest and get in touch with their natural motivation to learn.
16. There are some students who are unreachable and can't be motivated to learn no matter what I do or how hard I try.

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**Responses: A=Strongly Disagree, B=Somewhat Disagree, C=Somewhat Agree, D=Strongly Agree**

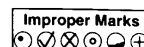
17. Students' intelligence and innate ability are fairly fixed and some students don't have what it takes to succeed at the college level.
18. Knowing my subject area very well is the most important thing for influencing student learning and motivation.
19. Even the most difficult classroom situations can be handled effectively when instructors are comfortable with themselves and can access their natural wisdom.
20. One of the most important things I can teach college students is how to deal with the pressures and stress that will be part of the world of work when they leave college.
21. If instructors take the time to know their students at a personal level, they can have a positive impact on motivation to learn.
22. At the college level instructors shouldn't be expected to work with students who consistently cause problems and disrupt the class.
23. The really effective college instructors always know more than their students.
24. Being an authority figure is less effective for facilitating student learning than being willing to share who I am as a person with my students.
25. Students should take my word that what I am teaching will be relevant to them because I know what students need to know and what will be important in the real world.
26. If I accept myself as a person, that is more important to my effectiveness as a teacher than the comprehensiveness of my teaching skills.
27. To accomplish high level learning and standards for college level teaching, I need to be in control of what is taught and the learning process.
28. If I can accept students where they are – without regard for their past records or academic performance – they are more receptive to learning.
29. As the instructor in my class, I am responsible for what students learn and how they learn.
30. Students respect their instructors more when they can relate to them not just as teachers but as real people.

APPENDIX B  
SURVEY FORM - STUDENT REACTIONS TO INSTRUCTION  
AND COURSES



# **SURVEY FORM - STUDENT REACTIONS TO INSTRUCTION AND COURSES**

## **IMPORTANT!**



Your thoughtful answers to these questions will provide helpful information to your instructor.

Describe the frequency of your instructor's teaching procedures, using the following code:

1=Hardly Ever

2=Occasionally

3=Sometimes

4=Frequently

5=Almost Always

### **The Instructor:**

1. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Displayed a personal interest in students and their learning
2. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Found ways to help students answer their own questions
3. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work
4. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Demonstrated the importance and significance of the subject matter
5. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Formed "teams" or "discussion groups" to facilitate learning
6. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Made it clear how each topic fit into the course
7. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Explained the reasons for criticisms of students' academic performance
8. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Stimulated students to intellectual effort beyond that required by most courses
9. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding
10. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Explained course material clearly and concisely
11. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Related course material to real life situations
12. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Gave tests, projects, etc. that covered the most important points of the course
13. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Introduced stimulating ideas about the subject
14. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Involved students in "hands on" projects such as research, case studies, or "real life" activities
15. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Inspired students to set and achieve goals which really challenged them
16. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own
17. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve
18. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Asked students to help each other understand ideas or concepts
19. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Gave projects, tests, or assignments that required original or creative thinking
20. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.)

Twelve possible learning objectives are listed below. For each, rate your progress in this course compared with your progress in other courses you have taken at this college or university. (Of course, ratings on objectives which were not addressed by the course will usually be low.)

In this course, my progress was:

- 1-Low (lowest 10 percent of courses I have taken here)
- 2-Low Average (next 20 percent of courses I have taken here)
- 3-Average (middle 40 percent of courses I have taken here)
- 4-High Average (next 20 percent of courses I have taken here)
- 5-High (highest 10 percent of courses I have taken here)

### **Progress on:**

21. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Gaining factual knowledge (terminology, classifications, methods, trends)
22. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Learning fundamental principles, generalizations, or theories
23. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Learning to apply course material (to improve thinking, problem solving, and decisions)
24. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
25. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Acquiring skills in working with others as a member of a team
26. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)
27. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
28. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Developing skill in expressing myself orally or in writing
29. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Learning how to find and use resources for answering questions or solving problems
30. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Developing a clearer understanding of, and commitment to, personal values
31. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Learning to analyze and critically evaluate ideas, arguments, and points of view
32. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Acquiring an interest in learning more by asking my own questions and seeking answers

On the next three items, compare this course with others you have taken at this institution, using the following code:

1=Much Less than Most Courses      2=Less than Most Courses      3=About Average      4=More than Most Courses      5=Much More than Most Courses

The Course:

33. ① ② ③ ④ ⑤ Amount of reading  
 34. ① ② ③ ④ ⑤ Amount of work in other (non-reading) assignments  
 35. ① ② ③ ④ ⑤ Difficulty of subject matter

Describe your attitudes and behavior in this course, using the following code:

1=Definitely False      2=More False Than True      3=In Between      4=More True Than False      5=Definitely True

Self Rating:

36. ① ② ③ ④ ⑤ I had a strong desire to take this course.  
 37. ① ② ③ ④ ⑤ I worked harder on this course than on most courses I have taken.  
 38. ① ② ③ ④ ⑤ I really wanted to take a course from this instructor.  
 39. ① ② ③ ④ ⑤ I really wanted to take this course regardless of who taught it.  
 40. ① ② ③ ④ ⑤ As a result of taking this course, I have more positive feelings toward this field of study.  
 41. ① ② ③ ④ ⑤ Overall, I rate this instructor an excellent teacher.  
 42. ① ② ③ ④ ⑤ Overall, I rate this course as excellent.

For the following items, blacken the space which best corresponds to your judgment:

1=Definitely False      2=More False Than True      3=In Between      4=More True Than False      5=Definitely True

43. ① ② ③ ④ ⑤ As a rule, I put forth more effort than other students on academic work.  
 44. ① ② ③ ④ ⑤ The instructor used a variety of methods--not only tests--to evaluate student progress on course objectives.  
 45. ① ② ③ ④ ⑤ The instructor expected students to take their share of responsibility for learning.  
 46. ① ② ③ ④ ⑤ The instructor had high achievement standards in this class.  
 47. ① ② ③ ④ ⑤ The instructor used educational technology (e.g., Internet, e-mail, computer exercises, multi-media presentations, etc.) to promote learning.

#### EXTRA QUESTIONS

If your instructor has extra questions, answer them in the space designated below (questions 48-66):

48. ① ② ③ ④ ⑤      58. ① ② ③ ④ ⑤  
 49. ① ② ③ ④ ⑤      59. ① ② ③ ④ ⑤  
 50. ① ② ③ ④ ⑤      60. ① ② ③ ④ ⑤  
 51. ① ② ③ ④ ⑤      61. ① ② ③ ④ ⑤  
 52. ① ② ③ ④ ⑤      62. ① ② ③ ④ ⑤  
 53. ① ② ③ ④ ⑤      63. ① ② ③ ④ ⑤  
 54. ① ② ③ ④ ⑤      64. ① ② ③ ④ ⑤  
 55. ① ② ③ ④ ⑤      65. ① ② ③ ④ ⑤  
 56. ① ② ③ ④ ⑤      66. ① ② ③ ④ ⑤  
 57. ① ② ③ ④ ⑤

Your comments are invited on how the instructor might improve this course or teaching procedures. Use the space below for comments (unless otherwise directed).  
*Note: Your written comments may be returned to the instructor. You may want to PRINT to protect your anonymity.*

Institution:

Instructor:

Course Number:

Time and Days Class Meets:

Comments:

APPENDIX C  
SHORT FORM - STUDENT REACTIONS TO INSTRUCTION  
AND COURSES





# SHORT FORM - STUDENT REACTIONS TO INSTRUCTION AND COURSES

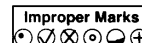
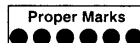
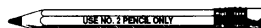
Institution:

Instructor:

Course Number:

Time and Days Class Meets:

## IMPORTANT!



Twelve possible learning objectives are listed below. For each, rate your progress in this course compared with your progress in other courses you have taken at this college or university. (Of course, ratings on objectives which were not addressed by the course will usually be low.)

In this course, my progress on this objective was:

- 1-Low (lowest 10 percent of courses I have taken here)
- 2-Low Average (next 20 percent of courses I have taken here)
- 3-Average (middle 40 percent of courses I have taken here)
- 4-High Average (next 20 percent of courses I have taken here)
- 5-High (highest 10 percent of courses I have taken here)

### Progress on:

- |       |   |   |   |   |   |
|-------|---|---|---|---|---|
| 1. ①  | ② | ③ | ④ | ⑤ | Gaining factual knowledge (terminology, classifications, methods, trends)   |
| 2. ①  | ② | ③ | ④ | ⑤ | Learning fundamental principles, generalizations, or theories   |
| 3. ①  | ② | ③ | ④ | ⑤ | Learning to <i>apply</i> course material (to improve thinking, problem solving, and decisions)  |
| 4. ①  | ② | ③ | ④ | ⑤ | Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course |
| 5. ①  | ② | ③ | ④ | ⑤ | Acquiring skills in working with others as a member of a team   |
| 6. ①  | ② | ③ | ④ | ⑤ | Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)                                 |
| 7. ①  | ② | ③ | ④ | ⑤ | Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)                 |
| 8. ①  | ② | ③ | ④ | ⑤ | Developing skill in expressing myself orally or in writing  |
| 9. ①  | ② | ③ | ④ | ⑤ | Learning how to find and use resources for answering questions or solving problems  |
| 10. ① | ② | ③ | ④ | ⑤ | Developing a clearer understanding of, and commitment to, personal values   |
| 11. ① | ② | ③ | ④ | ⑤ | Learning to <i>analyze</i> and <i>critically evaluate</i> ideas, arguments, and points of view  |
| 12. ① | ② | ③ | ④ | ⑤ | Acquiring an interest in learning more by asking my own questions and seeking answers   |

For the remaining questions, use the following code:

1=Definitely  
False

2=More False  
Than True

3=In Between

4=More True  
Than False

5=Definitely  
True

- |       |   |   |   |   |  |
|-------|---|---|---|---|--|
| 13. ① | ② | ③ | ④ | ⑤ | I had a strong desire to take this course.   |
| 14. ① | ② | ③ | ④ | ⑤ | I really wanted to take a course from this instructor.                                       |
| 15. ① | ② | ③ | ④ | ⑤ | I really wanted to take this course regardless of who taught it.                             |
| 16. ① | ② | ③ | ④ | ⑤ | As a result of taking this course, I have more positive feelings toward this field of study. |
| 17. ① | ② | ③ | ④ | ⑤ | Overall, I rate this instructor an excellent teacher.  |
| 18. ① | ② | ③ | ④ | ⑤ | Overall, I rate this course as excellent.  |

### EXTRA QUESTIONS

If your instructor has extra questions, answer them in the space designated below (questions 19-28).

- |       |   |   |   |   |       |   |   |   |   |
|-------|---|---|---|---|-------|---|---|---|---|
| 19. ① | ② | ③ | ④ | ⑤ | 24. ① | ② | ③ | ④ | ⑤ |
| 20. ① | ② | ③ | ④ | ⑤ | 25. ① | ② | ③ | ④ | ⑤ |
| 21. ① | ② | ③ | ④ | ⑤ | 26. ① | ② | ③ | ④ | ⑤ |
| 22. ① | ② | ③ | ④ | ⑤ | 27. ① | ② | ③ | ④ | ⑤ |
| 23. ① | ② | ③ | ④ | ⑤ | 28. ① | ② | ③ | ④ | ⑤ |

Your comments are invited on *how* the instructor might improve this course or teaching procedures. Use the space provided on the back of this form for your comments.









APPENDIX D  
SAMPLE ANALYSIS OF IDEA SURVEY DATA

Faculty Name: KING, JM  
Course: Other 0012

Term: Fall 1998-1999  
Page 2


### Section I. Overall Measures of Teaching Effectiveness

This section compares your results with those for other instructors and courses in the national database on four OVERALL MEASURES OF TEACHING EFFECTIVENESS. The primary value of this information is to aid in making administrative recommendations; if this is the only use you will make of the report, you need to consult only these results and the context provided by Part IV, page 6. Please remember that most of the classes included in the database have been taught in a reasonably successful manner; therefore, a rating which is "below average" does not necessarily mean that the quality of instruction was unacceptable.

Overall Measures of Effectiveness	T-Score	2% of all classes	28% of all classes	40% of all classes (Avg. range)	28% of all classes	2% of all classes	Your Average (5-Point Scale)	
	Unadj. Adj.						Raw	Adjusted
1. Progress on Relevant (Essential and Important) Objectives	65						NA <sub>1</sub>	NA <sub>1</sub>
	66							
2. Improved Student Attitude	50						3.9	4.5
	59							
3. Overall Excellence of Teacher	61						4.9	4.8
	60							
4. Overall Excellence of Course	54						4.1	4.7
	62							

20 30 40 45 50 55 60 70 80  
T Score—Comparison with all Classes in National Database

 Unadjusted T Score  $\pm$  one standard error of measurement

 Adjusted T Score  $\pm$  one standard error of measurement (adjusted for class size; student desire to take course regardless of who taught it; course difficulty not attributable to instructor; student effort not attributable to instructor; and other student motivational influences)

You may wish to assign these ratings to categories like those which have been used historically with the IDEA system. Simply assign T Scores to categories as follows: **Low** (lowest 10%)=T Score below 37; **Low Average** (next 20%)=T Score 37-44; **Average** (middle 40%)=T Score 45-55; **High Average** (next 20%)=T Score 56-63; and **High** (highest 10%)=T Score above 63.

**1. Progress on Relevant (Essential and Important) Objectives.** Because student learning is the central purpose of teaching, and because you chose the objectives considered by this measure, this is probably the most vital measure of effectiveness. A double weight is given to student ratings of progress on objectives you chose as *Essential*, and a single weight to those chosen as *Important*; objectives identified as being of *Minor or No Importance* were ignored in developing this measure.

**2. Improved Student Attitude.** The graph shows the average response of students to item 40, "As a result of taking this course, I have more positive feelings toward this field of study." This rating is most meaningful for courses which are taken by many non-majors. Most teachers hope that such students will develop a respect and appreciation for the discipline even if they choose to take no additional courses in it.

**3. Overall Excellence of Teacher.** This shows the average response to item 41, "Overall, I rate this instructor an excellent teacher." Overall impressions of a teacher affect student attitudes, effort, and learning.

**4. Overall Excellence of Course.** This shows the average response to item 42, "Overall, I rate this course as excellent." This evaluation is likely determined by a number of factors (e.g., teaching style, student satisfaction with course outcomes, and characteristics such as organization, selection of readings and/or other influences).

NA<sub>1</sub>: Based on a combination of ratings where an average on a 5-point scale is not comparable.

APPENDIX E  
IDEA SURVEY FACULTY INFORMATION FORM

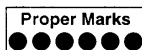


# Faculty Information Form

Institution: \_\_\_\_\_ Instructor: \_\_\_\_\_

Course Number: \_\_\_\_\_ Time and Days Class Meets: \_\_\_\_\_

## IMPORTANT!



Last Name (Up to 11 letters)											Init.
A	A	A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z

Objectives: (Scale - M = Minor or No Importance, I = Important, E = Essential)

- M I E
- ☐ ☐ ☐ Gaining factual knowledge (terminology, classifications, methods, trends)
  - ☐ ☐ ☐ Learning fundamental principles, generalizations, or theories
  - ☐ ☐ ☐ Learning to *apply* course material (to improve thinking, problem solving, and decisions)
  - ☐ ☐ ☐ Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
  - ☐ ☐ ☐ Acquiring skills in working with others as a member of a team
  - ☐ ☐ ☐ Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)
  - ☐ ☐ ☐ Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
  - ☐ ☐ ☐ Developing skill in expressing oneself orally or in writing
  - ☐ ☐ ☐ Learning how to find and use resources for answering questions or solving problems
  - ☐ ☐ ☐ Developing a clearer understanding of, and commitment to, personal values
  - ☐ ☐ ☐ Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view
  - ☐ ☐ ☐ Acquiring an interest in learning more by asking questions and seeking answers

Days Class Meets	Department Code	Time Class Begins	Course Number	Number Enrolled	Local Code
<input type="radio"/> Mon	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
<input type="radio"/> Tues	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
<input type="radio"/> Wed	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2
<input type="radio"/> Thu	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3
<input type="radio"/> Fri	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4
<input type="radio"/> Sat	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5
<input type="radio"/> Sun	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6
	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7
	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8
	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9

### Contextual Questions (Research Purposes):

The IDEA Center will conduct research on these optional questions in order to improve the interpretation of student ratings.

1. Which of the following represents the primary approach to this course? (Mark only one)

- ☐ = Lecture
- ☐ = Discussion/recitation
- ☐ = Seminar
- ☐ = Skill/activity
- ☐ = Laboratory
- ☐ = Field Experience
- ☐ = Studio
- ☐ = Multi-Media
- ☐ = Practicum/clinic
- ☐ = Other

2. If multiple approaches are used, which one represents the secondary approach?

- ☐ = Lecture
- ☐ = Discussion/recitation
- ☐ = Seminar
- ☐ = Skill/activity
- ☐ = Laboratory
- ☐ = Field Experience
- ☐ = Studio
- ☐ = Multi-Media
- ☐ = Practicum/clinic
- ☐ = Other

3. Describe this course in terms of its requirements with respect to the features listed below. Use the following code to make your responses:

N = None (or little) required  
S = Some required  
M = Much required

- N S M
- ☐ ☐ ☐ A. Writing
  - ☐ ☐ ☐ B. Oral communication
  - ☐ ☐ ☐ C. Computer applications
  - ☐ ☐ ☐ D. Group work
  - ☐ ☐ ☐ E. Mathematical/quantitative work
  - ☐ ☐ ☐ F. Critical thinking
  - ☐ ☐ ☐ G. Creative/artistic/design endeavor

## Contextual Questions Continued:

4. Rate each of the circumstances listed below, using the following code to respond:

P = Had a positive impact on learning  
I = Neither a positive nor a negative impact  
N = Had a negative impact on learning  
? = Can't judge

P I N ?

- ☐ ☐ ☐ ☐ A. Physical facilities and/or equipment  
☐ ☐ ☐ ☐ B. Your previous experience in teaching this course  
☐ ☐ ☐ ☐ C. Substantial changes in teaching approach, course assignments, content, etc.  
☐ ☐ ☐ ☐ D. Your desire to teach this course  
☐ ☐ ☐ ☐ E. Your control over course management decisions (objectives, texts, exams, etc.)  
☐ ☐ ☐ ☐ F. Adequacy of students' background and preparation for the course  
☐ ☐ ☐ ☐ G. Student enthusiasm for the course  
☐ ☐ ☐ ☐ H. Student effort to learn  
☐ ☐ ☐ ☐ I. Technical/instructional support

5. Please identify the principal type of student enrolling in this course

- ① = Freshmen/sophomores seeking to meet a "general education" or "distribution" requirement  
 ② = Freshmen/sophomores seeking to develop background needed for their intended specialization  
 ③ = Upperclassmen non-majors taking the course as a "general education" or "distribution" requirement  
 ④ = Upperclassmen majors (in this or a related field of study) seeking competence or expertise in their academic/professional specialty  
 ⑤ = Graduate or professional school students  
 ⑥ = Combination of two or more of the above types

6. Is this class:

- a. Team taught? ☐ Yes ☐ No  
 b. Taught through distance learning? ☐ Yes ☐ No

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APPENDIX F

NOTIFICATION OF USE OF DATA FOR DOCTORAL  
DISSERTATION RESEARCH (PROVIDED TO RESPONDENTS)



# What's this?

## NOTIFICATION OF USE OF DATA FOR DOCTORAL DISSERTATION RESEARCH

Collection of this quarter's (Spring 1999) data from student responses on the *IDEA Survey* and *Short Form - Student Reactions to Instruction and Courses* will be used in doctoral research being done by Jeff King, doctoral candidate in Higher Education at the University of North Texas and Faculty Development Director at the Art Institute of Dallas.

There are no risks to subjects involved in this research—your responses are gathered in the same manner that the Art Institute of Dallas always collects end-of-quarter student responses on the IDEA instrument. Benefits to you are the same as always—that your responses and comments are used to improve curriculum and instruction at the Institute.

As usual, data collected will be analyzed by the Kansas State University IDEA Center and results returned to the Institute to be used for faculty, program, and institutional development purposes. Additionally, the results from Kansas State's analysis will be used in a statistical evaluation performed as part of Mr. King's doctoral dissertation research. Results of the research will be included in his dissertation, tentatively titled *Learner-Centered Teacher Beliefs and Student-Perceived Teaching Effectiveness*.

No additional time or effort is required of subjects other than answering the questions on the IDEA instrument as usual. That process normally takes students only a few minutes, with any additional time beyond that amount depending on how extensive the written comments are that you wish to include.

Students may choose not to have their IDEA responses used in this dissertation research by writing a note to that effect in the written comments section of the IDEA form. At any time during Mr. King's collection or analysis of data you may choose to have your responses removed from consideration by notifying him of that desire (see contact information below).

As with the usual IDEA form data collection and reporting process, all student responses, including written responses, are completely confidential: names or other identifying information is not collected as part of the IDEA form information, and written comments are typed before distribution in order to ensure that no faculty or administration recognize a student's handwriting.

For any questions about the doctoral dissertation research being conducted in this study, please contact Mr. King at his office on the west end of the second floor, at his AID voicemail #725, or at his AID e-mail address: [kingj@aii.edu](mailto:kingj@aii.edu).

*This project has been reviewed and approved by the University of North Texas  
Committee for the Protection of Human Subjects (940 565-3940).*



APPENDIX G

NOTIFICATION OF USE OF DATA FOR DOCTORAL  
DISSERTATION RESEARCH (FILED WITH THE UNIVERSITY)

## NOTIFICATION OF USE OF DATA FOR DOCTORAL DISSERTATION RESEARCH

Collection of data on this *Teacher Beliefs Survey* will be used in doctoral research being done by Jeff King, doctoral candidate in Higher Education at the University of North Texas and Faculty Development Director at the Art Institute of Dallas.

There are no risks to subjects involved in this research; this study asks only that you answer the questions on the survey. Your answers and the results of the survey will be used only in Mr. King's doctoral dissertation and will not be used in any way as part of any performance evaluation at the Art Institute of Dallas. Benefits to you are that if results of the study reveal potential uses of the information to improve faculty development initiatives, such improvements will be integrated into faculty development processes at the Institute.

Your answers on the survey will be used in a statistical evaluation performed as part of Mr. King's doctoral dissertation research. Results of the research will be included in his dissertation, tentatively titled *Learner-Centered Teacher Beliefs and Student-Perceived Teaching Effectiveness*.

No additional time or effort is required of subjects other than answering the questions on the survey. It should take no more than 15 minutes to complete the survey. At any time during Mr. King's collection or analysis of data you may choose to have your responses removed from consideration by notifying him of that desire (see contact information below).

You may choose not to participate in this study. In such case, do not fill out the survey. There will be no adverse consequences to choosing not to participate.

These data will be used only for the purposes of this research, and your responses will be held in confidence. Your individual ratings on the survey are available to you at any time, but will not be available to anyone else. Should there be a need to refer in the dissertation to a specific instructor's responses on the survey, no names will be used; instructors will be identified only as "Instructor A," for example.

For any questions about the doctoral dissertation research being conducted in this study, or to learn your own personal results of the survey, please contact Mr. King at his office on the west end of the second floor, at his AID voicemail #725, or at his AID e-mail address: kingj@aii.edu.

*This project has been reviewed and approved by the University of North Texas  
Committee for the Protection of Human Subjects (940/565-3940).*

\*\*

APPENDIX H

INDEPENDENT SAMPLES TEST TABLE AND  
GROUP STATISTICS TABLE AS PRODUCED BY  
THE STATISTICAL ANALYSIS SOFTWARE

## Independent Samples Test

		Fertility: average number of kids	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variance:	F	.254	
	Sig.	.616	
t-test for Equality of Means	t	-5.081	-5.207
	df	65	57.564
	Sig. (2-tailed)	.000	.000
	Mean Difference	-2.066	-2.066
	Std. Error Difference	.407	.397
	95% Confidence Interval of the Mean	Lower Upper	-2.878 -2.861 -1.254 -1.272

## Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Fertility: average number of kids	Catholic	41	3.138	1.687	.263
	Muslim	26	5.204	1.514	.297

APPENDIX I

FACTOR BREAK-OUT BY QUESTION AND SCORING KEY FOR THE  
ASSESSMENT OF LEARNER-CENTERED PRACTICES (ALCP):  
BELIEFS PORTION OF THE POSTSECONDARY LEVEL  
INSTRUCTOR SURVEY (COLLEGE LEVEL)

**THE ASSESSMENT OF LEARNER-CENTERED PRACTICES  
(ALCP): Beliefs Portion of the Postsecondary  
Level INSTRUCTOR Survey (College Level)©**

**SCORING KEY – 30 Items Total**

**Scale 1: Learner-Centered Beliefs About Learners, Learning, and Teaching**

Items 1, 3, 6, 8, 11, 12, 15, 19, 20, 21, 24, 26, 28, 30 (14 items)

**Scale 2: Non Learner-Centered Beliefs About Learning and Teaching**

Items 2, 10, 14, 18, 23, 25, 27, 29 (8 items)

**Scale 3: Non Learner-Centered Beliefs About Learners**

Items 4, 5, 7, 9, 13, 16, 17, 22 (8 items)

## REFERENCES

Alexander, P. A., & Murphy, P. K. (1998). The research base for APA's learner-centered psychological principles. In N. M. Lambert, & B. L. McCombs (Eds.), How students learn: Reforming schools through learner-centered education (pp. 25-60). Washington, DC: American Psychological Association.

Armour-Thomas, E. (1989). The application of teacher cognition in the classroom: A new teaching competency. Journal of Research and Development in Education, 23(3), 29-37.

Art Institutes International. (1997). Mission and vision statement. Pittsburgh: Author.

Aubrecht, J. D. (1979). Are student ratings of teacher effectiveness valid? IDEA paper no. 2. Manhattan, KS: Center for Faculty Evaluation and Development, Kansas State University.

Austin Community College Faculty Development (1999). [On-line]. Available: <http://www.austin.cc.tx.us/pod/index2.htm>.

Axelrod, J. (1980). From counterculture to counterrevolution: A teaching career, 1959-1984. In K. E. Eble (Ed.), Improving teaching styles (pp. 7-20). San Francisco: Jossey-Bass.

Baiocco, S. A., & DeWaters, J. N. (1998). Successful college teaching: Problem-solving strategies of distinguished professors. Needham Heights, MA: Allyn & Bacon.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. Educational psychologist, 28, 117-148.

Barr, R. B. (1995, March). From teaching to learning: A new reality for community colleges. Leadership Abstracts, 8(3) [On-line], 1-4. Available: <http://www.league.org/labs0395.html>.

Barr, R. B., & Tagg, J. (1995, November/December). From teaching to learning: A new paradigm for undergraduate education. Change. 13-25.

Brophy, J. E., & Good, T. L. (1974). Teacher-student relationships: Causes and consequences. New York: Holt, Rinehart & Winston.

Burdsal, C. A., & Bardo, J. W. (1986). Measuring students' evaluations of teaching: Dimensions of evaluation. Educational and Psychological Measurement, 46, 63-77.

Caine, R. N., & Caine, G. (1994). Making connections: Teaching and the human brain. Menlo Park, CA: Addison-Wesley.

Caine, R. N., & Caine, G. (1997). Unleashing the power of perceptual change. Alexandria, VA: Association for Supervision and Curriculum Development.

Caine, G., Caine, R. N., & Crowell, S. (1994). Mindshifts: A brain-based process for restructuring schools and renewing education. Tucson, AZ: Zephyr Press.



Cashin, W. E. (1995). Student ratings of teaching: The research revisited. IDEA Paper No. 32. Manhattan, KS: Center for Faculty Evaluation and Development, Kansas State University.

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. The Wingspread Journal, 9(2).

Collinson, V. (1996, February). Staff development through inquiry: Opening a Pandora's box of teacher beliefs. Annual Meeting of the Association of Teacher Educators. St. Louis, MO.

Crowell, S., Caine, R. N., & Caine, G. (1998). The re-enchantment of learning: A manual for teacher renewal and classroom transformation. Tucson, AZ: Zephyr Press.

Davis, B. D. (1993). Tools for teaching. San Francisco: Jossey-Bass.

DePorter, B., Reardon, M., & Singer-Nourie, S. (1999). Quantum teaching: Orchestrating student success. Needham Heights, NY: Allyn & Bacon.

Diamond, M., & Hopson, J. (1998). Magic trees of the mind: How to nurture your child's intelligence, creativity, and healthy emotions from birth to adolescence. New York: Dutton.

Doyle, M. (1997). Beyond life history as a student: Preservice teachers' beliefs about teaching and learning. College Student Journal, 31, 519-531.

Dryden, G., & Vos, J. (1994). The learning revolution. Rolling Hills Estates, CA: Jalmar Press.

Ennis, C. D., Cothran, D. J., & Loftus, S. J. (1997). The influence of teachers' educational beliefs on their knowledge organization. Journal of Research and Development in Education, 30(2), 73-86.

Fang, Z. (1996). A review of research on teacher beliefs and practices. Educational Research, 38(1), 47-65.

Fasko, Jr., D., & Grubb, D. J. (1997, March). Implications of the learner-centered psychological principles and self-assessment tools for teacher education reform. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Felder, R. M., & Brent, R. (1996). Navigating the bumpy road to student-centered instruction. College teaching, 44(6), 43-47.

Feldman, K. A. (1997). Identifying exemplary teachers and teaching: Evidence from student ratings. In R. P. Perry, & W. C. Smart (Eds.), Effective teaching in higher education: Research and practice (pp. 368-395). New York: Agathon Press.

Frey, B. A. (1996, October). A review of literature: Improving instructors' speaking skills. Paper presented at the Eastern Adult, Continuing and Distance Education Conference, Penn State University, University Park, PA.

Gallup Organization. (1997). Teacher perceiver: Overview, background and research, 1997. (Summary paper). Lincoln, NE: Author.

Garvin, D. A. (1991). Barriers and gateways to learning. In C. R. Christensen, D. A. Garvin, & A. Sweet (Eds.), Education for judgment: The

artistry of discussion leadership (pp. 3-13). Boston: Harvard Business School Press.

Goodenough, D. A. (1991). Changing ground: A medical school lecturer turns to discussion teaching. In C. R. Christensen, D. A. Garvin, & A. Sweet (Eds.), Education for judgment: The artistry of discussion leadership (pp. 83-98). Boston: Harvard Business School Press.

Healy, J. M. (1990). Endangered minds: Why children don't think and what we can do about it. New York: Touchstone.

Henerson, M., Morris, L. L., & Fitz-Gibbon, C. T. (1987). How to measure attitudes. Newbury Park, CA: Sage Publications.

Hughes, L. (1994, November). Change process in preservice teachers beliefs about teaching and learning during a literacy methods course. Annual Meeting of the National Reading Conference. San Diego, CA.

IDEA Center, Kansas State University. (1998a). IDEA-student ratings of instruction, group summary report, institutional summary, art institute of dallas, fall 1998. Manhattan, KS: Author.

IDEA Center, Kansas State University. (1998b). Overview of student ratings: Value and limitations. Manhattan, KS: Author.

IDEA Center, Kansas State University. (1998c). IDEA survey form - student reactions to instruction and courses. Manhattan, KS: Author.

IDEA Center, Kansas State University. (1998d). IDEA short form - student reactions to instruction and courses. Manhattan, KS: Author.

Jensen, E. (1994). The learning brain. Del Mar, CA: Turning Point for Teachers.

Jensen, E. (1998). Teaching with the brain in mind. Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, K. (1992). The relationship between teachers' beliefs and practices during literacy instruction for non-native speakers of English. Journal of Reading Behavior, 24, 83-108.

Khatttri, N., & Miles, M. B. (1995). Mapping basic beliefs about learner centered schools. Theory into practice, 34(4), 279-287.

Lowman, J. (1984). Mastering the techniques of teaching. San Francisco: Jossey-Bass.

Marsh, H. W., & Duncan, M. J. (1997). Students' evaluations of university teaching: A multidimensional perspective. In R. P. Perry, & W. C. Smart (Eds.), Effective teaching in higher education: Research and practice (pp. 241-320). New York: Agathon Press.

McClenney, K. M. (1998, August). Community colleges perched at the millennium: Perspectives on innovation, transformation, and tomorrow. Leadership Abstracts, 11(8) [On-line], 1-9. Available: <http://www.league.org/labs0898.html>.

McCombs, B. L. (1999). The assessment of learner-centered practices (ACLP): Beliefs portion of the postsecondary level INSTRUCTOR survey (college level). Denver: University of Denver Research Institute.

McCombs, B. L., & Lauer, P. A. (1997). Development and validation of the learner-centered battery: Self-assessment tools for teacher reflection and professional development. The Professional Educator, 20(1), 1-21.

McCombs, B. L., & Stiller, J. R. (1995, October). Development and validation of the learner-centered battery: Self-assessment for teachers and administrators. Aurora, CO: Mid-continent Regional Educational Laboratory.

McCombs, B. L., & Whisler, J. S. (1997). The learner-centered classroom and school: Strategies for increasing student motivation and achievement. San Francisco: Jossey-Bass.

McKeachie, W. J. (1994). Teaching tips: Strategy, research, and theory for college and university teachers. (9th ed.). Lexington, MA: D. C. Heath & Co.

McKinney, K. (1997). What do student ratings mean? The National Teaching and Learning Forum 7(1), 5-6.

Menges, R. J. (1990). Teaching: Beliefs and behaviors. Teaching Excellence, 2(6), 1-2.

Menges, R. J., & Svinicki, M. D. (Eds.). (1991). College teaching: From theory to practice. San Francisco: Jossey-Bass.

Mueller, J. C., & Zeidler, D. L. (1998). A case study of teacher beliefs in contemporary science education goals and classroom practices. Annual Meeting of the National Association for Research in Science Teaching. San Diego, CA.

O'Banion, T. (1999, March). The learning college: Both learner and learning centered. Leadership Abstracts, 2(2) [On-line], 1-4. Available: <http://www.league.org/lelabs0399.html>.

Orton, R. E. (1996). Teacher beliefs and student learning. Philosophy of Education [On-line], 1-7. Available: [http://www.ed.uiuc.edu/pes/96\\_docs/orton.html](http://www.ed.uiuc.edu/pes/96_docs/orton.html).

Pajares, F. (1993). Preservice teachers' beliefs: A focus for teacher education. Action in Teacher Education, 15, 45-54.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. Review of Educational Research, 62(3), 307-332.

Presidential Task Force on Psychology in Education, American Psychological Association (1993, January). Learner-centered psychological principles: Guidelines for school redesign and reform. Washington, D.C.: American Psychological Association/Mid-continent Regional Educational Laboratory.

Rando, W. C., & Menges, R. J. (1991). How practice is shaped by personal theories. In R. J. Menges & M. D. Svinicki (Eds.), College teaching: From theory to practice (pp. 7-14). San Francisco: Jossey-Bass.

Rose, C., & Nicholl, M. J. (1997). Accelerated learning for the 21st century. New York: Dell.

Rosenthal, R., & Jacobson, L. (1968). Pygmalion in the classroom: Teacher expectation and pupils' intellectual development. New York: Holt, Rinehart & Winston.

Runco, M. A., & Thurston, B. J. (1987). Students' ratings of college teaching: A social validation. Teaching of psychology, 14, 89-91.

Schrenko, L. (1994). Structuring a learner-centered school. Arlington Heights, IL: IRI/Skylight.

Schroeder, C. C. (1993). New students--New learning styles. Change, September/October.

Smith, K. L., & Kolosick, J. T. (1996). The shift to a learner-centered university: New roles for faculty, students, and technology. Association of small computer users in education (ASCUE) summer conference proceedings (pp. 146-157). North Myrtle Beach, SC: ASCUE.

Smrekar, J. L. (1997, March). The impact of learner-centered classrooms on second language learning: Communicating with educators. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Stage, F. K., Muller, P. A., Kinzie, J., & Simmons, A. (1998). Creating learning centered classrooms: What does learning theory have to say? ASHE-ERIC Higher Education Report Volume 26, No. 4. Washington, D.C.: The George Washington University, Graduate School of Education and Human Development.

Sousa, D. A. (1995). How the brain learns. Reston, VA: National Association of Secondary School Principals.

Southern Association of Colleges and Schools Commission on Colleges. (1996). Criteria for Accreditation (10th ed.). Atlanta, GA: Author.

SPSS base 9.0: Applications guide. (1999). Chicago: SPSS.

Waters, M., Kemp, E., & Pucci, A. (1988). High and low faculty evaluations: Descriptions by students. Teaching of Psychology, 15, 203-204.

Welkowitz, J., Ewen, R. B., & Cohen, J. (1982). Introductory statistics for the behavioral sciences. San Diego: Harcourt, Brace, Jovanovich.

Williams, P. A. (1996, September). Relationships between educational philosophies and attitudes toward learner-centered instruction. Paper submitted for Outstanding Student Research Award of the Georgia Educational Research Association, Atlanta, GA.

Withall, B. J. (1991). The development of an instrument for recording and assessing preschool teacher verbal behavior. Unpublished doctoral dissertation, The Pennsylvania State University, University Park.